

REMARKS

Claims 34, 35, 37, 38, 39, and 43 have been indicated as allowable.

Claims 1, 22, 25-33, 36, 40-42, and 44-46 stand rejected under 35 U.S.C. § 112, first paragraph for purportedly failing to comply with the enablement requirement, as set forth in paragraph 3 of the Office Action. Similarly, the same claims are rejected under 35 U.S.C. § 112, second paragraph, for being indefinite, as set forth in paragraph 4 of the Office Action. The 35 U.S.C. § 112, first and second paragraph rejections are based on the use of the term “unit curve” in the claims, as well as the description of the “unit curve” in the specification. Applicants respectfully submit that the claims as amended herein satisfy all conditions of 35 U.S.C. § 112, first and second paragraphs, as set forth below.

The amendment to claim 1 clarifies certain aspects of the method and more positively and distinctly claims the method. As amended, the claim sets forth that the theoretical weight curve for each fibrous component to be transported into the weighing container during a weighing cycle is used to control the transport speed of the material feed device. As amended, claim 1 positively defines the theoretical weight curve as a curve that provides total weight of the transported fibrous material at a given time in the weighing cycle. The theoretical weight curve is determined for each fibrous material component based on a predetermined relationship (i.e. the “unit curve”) of feed rate of the transported fibrous material as a function of time over the weighing cycle. This predetermined relationship of the feed rate as a function of time is established to achieve a theoretical total weight of fibrous material to be transported into the weighing

container during the weighing cycle. Applicants respectfully submit that these limitations are more than adequately described and enabled in the specification.

For example, at page 7, lines 15-26, the specification describes that the relationship between the rate of material feed over the course of a weighing cycle is determined from “empirical values.” The relationship or “unit curve” represents the amount of transported material per unit of time and is established when the speed of the feed device is approximately proportional to the amount of transported material. The specification describes that the relationship is empirically determined, i.e., through a trial and error method wherein measurements of the amount of transported material versus speed are taken until the proportional relationship is established. It is respectfully submitted that those skilled in the art understand the “empirical” nature of the process set forth in the specification. Fig. 3 gives a clear example of derivation of the unit curve or relationship of feed rate of the transported fibrous material as a function of time over the weighing cycle. Referring to Fig. 3 and the description at page 9, lines 7-25 of the specification, the unit curve shown in Fig. 3 is clearly described as representing the amount of transported fibrous material that is necessary for achieving a theoretical weight of the material for a given weighing cycle. In Fig. 3, the transported amount at the beginning of the weighing cycle is approximately 100 percent of the feed rate. This transported amount is maintained over approximately 60 percent of the time of the weighing cycle. The transported amount is then lowered to approximately 20 percent of the feed rate, and the fine dosing is carried out to the final theoretical weight for the remaining 20 to 25 percent of the weighing cycle as the transported amount of fibrous material is decreased. The area under the unit curve in Fig. 3 thus represents the total

amount of fibrous material to be transported during the weighing cycle. The theoretical weight curve is derived merely by integration of the unit curve and thus provides a total weight of transported fibrous material at a given time during the course of the weighing cycle. This theoretical weight curve is then used to vary the transport speed so that the amount of fibrous material to be transported is maintained according to the theoretical weight curve profile.

At the passage of page 9 cited above, the specification clearly describes that the "unit curve" is "fixed" for each of the mixing components of the weighing cycle in that the weighing cycle time is known and the theoretical weight or amount of material to be transported during such time is also known. Thus, referring again to Fig. 3 and the description at page 7 of the specification, the unit curve is empirically determined with the known values of the theoretical amount of material to be transported and the time of the weighing cycle, wherein the weighing cycle is subdivided into distinct time sections or phases, as described in detail at page 8 of the specification, line 24, through page 9, line 6. In particular, the sections or phases are the pre-filling (Zone A), the main filling (Zone B), and the fine filling (Zone C).

Accordingly, all of the parameters necessary for determining the unit curve of Fig. 3 are known, and it is not unreasonable or unduly burdensome for one skilled in the art to derive the actual curve within the bounds of the known values by empirical measurement wherein a proportional relationship between speed of the material feed device and amount of material conveyed is established. It is well settled that the enablement requirement is satisfied even if some experimentation is necessary, although the amount of experimentation need not be unduly extensive. The applicants

have described in detail all of the steps necessary to derive the relationship established by the unit curve of Fig. 3, as well as the theoretical weight curve of Fig. 5. The fact that the unit curve of Fig. 3 varies depending on type of fibrous material, machine, and so forth, and is thus initially determined by empirical measurement, does not mean that the enablement requirement is not satisfied. It should be readily appreciated that the unit curve will vary between different machines and different fibrous material components and, thus, may be best determined empirically, as described by the applicants in their specification.

As to the Examiner's position that the inventors have not given "clear direction" on how the experimental run to determine the unit curve is carried out, or under what conditions, it is respectfully submitted that those skilled in the art would readily recognize that the conditions for empirically determining the unit curve should be as close to actual production conditions as feasible. As to how the data is compiled into a curve, such process should be readily apparent from the specification. Once the proportional relationship between transport speed of the feed device and amount transported is determined empirically, the curve is readily derived, plotted, or otherwise determined based on the known parameters of theoretical amount of material to be supplied during the course of a given weighing cycle (set time) in accordance with known various zones or phases of operation during the weighing cycle. The time for each zone, amount of material to be transported within each zone, and so forth, may vary from machine to machine and for different fibrous materials. However, such parameters will be known and, thus, the curve may be readily computed or determined.

Such process is well within the level of skill of those of ordinary skill in the art of textile machinery control systems.

Accordingly, applicants respectfully submit that claim 1 satisfies the requirements of 35 U.S.C. § 112, and is allowable. Claims 27-33, 36, and 41 depend from claim 1 and are thus also allowable.

Claims 22, 40, and 45 have been amended to include the same limitations as discussed above with respect to claim 1. It is thus respectfully submitted that these claims are also allowable, as well as their respective dependent claims.

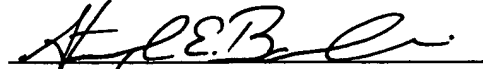
Applicants respectfully submit that the present Amendment is proper at this stage of prosecution in that it does not add additional material limitations to the claims, or require any additional consideration or search on the part of the Examiner. The amendments to the claims are made to clarify and more distinctly claim the theoretical weight curve and its basis.

With the present Amendment, applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance. Favorable action thereon is respectfully requested. The Examiner is encouraged to contact the undersigned at his convenience should he have any questions regarding this matter or require any additional information.

Respectfully submitted,

DORITY & MANNING, P.A.

By:

A handwritten signature in black ink, appearing to read "S.E. Bondura", written over a horizontal line.

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